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EXPERIENCE AND NATURE

By PROFESSOR JOHN DEWEY of Columbia University

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THE JOURNAL OF PHILOSOPHY

THE DOCTRINE OF LEVELS[1]

PHRASES denoting differences of level are familiar, and I think are becoming increasingly frequent, in the literature of several sciences. One might trace a development from the literal meanings encountered in geology and archæology to the various metaphorical meanings found in history, sociology, psychology, epistemology, and metaphysics. As used in metaphysics, it is evident that such phrases have the fascination of great generalizations, but also the dangers of loose metaphors. Without attempting anything like a complete treatment in this paper, I should like to consider briefly four questions bearing upon the subject: (1) What is a metaphysical level? (2) What levels does the world exhibit? (3) How do later levels develop from earlier levels? (4) What are some of the more important applications of the doctrine of levels to the classical problems of philosophy?

1. *What is a metaphysical level?* A level may be defined as a class of structures or processes which are distinguishable from others as being either higher or lower. The difficulty for metaphysics is in fixing the meanings of the terms "higher" and "lower." These terms are used variously, to denote differences which are spatial, valuational, logical, and developmental. As denoting spatial differences (*e.g.*, "above" and "below") they are obviously inadequate for the more elaborate requirements of metaphysics; if they have any importance here, it is secondary. As denoting valuational differences (*e.g.*, "better" and "worse"), the terms are important for idealists and pragmatists, according to whose metaphysics the world becomes eventually harmonious and intelligible, or increasingly amenable to human control. It is impossible to pass lightly by these strongly held positions; but in order to look back at them from a point of view to be reached later, I shall assume that the valuational differences which might be denoted by the terms "higher" and "lower," although they are indispensable for us, are not intrinsic to other portions of the world, and hence are not entirely adequate for metaphysics. As denoting logical differences (*e.g.*, "more inclusive" and "less inclusive"), the terms "higher" and "lower" are im-

[1] Read at the twenty-sixth meeting of the Western Division of the American Philosophical Association, April 9, 1925.

portant for the neo-realists and critical realists who ascribe metaphysical reality to subsistents and essences, and include among these the logical relations as subtending, if not characterizing, the world of existences. These positions also are difficult to pass by; but in order to look at them from a point of view to be reached later, I shall assume that the logical differences which might be denoted by the terms "higher" and "lower," although they too are indispensable for us, are refinements of epistemology rather than essentials of metaphysics.

Assuming, then, for the sake of the argument, that spatial, valuational, and logical meanings of the terms "higher" and "lower" are, as noted above, too limited to be adequate for metaphysics, I would pass to the developmental meaning of the terms. Lloyd Morgan has defined them in accordance with what he calls "involution and dependence." "When two or more kinds of events . . . *A*, *B*, and *C*, co-exist in one complex system in such wise that the *C* kind involves the co-existence of *B*, and *B* in like manner involves *A*, whereas the *A*-kind does not involve the co-existence of *B*, nor *B* that of *C*, we may speak of *C* as, in this sense, higher than *B*, and *B* than *A*. . . . I speak of events at any given level in the pyramid of emergent evolution as 'involving' concurrent events at lower levels. . . . But when some new kind of relatedness is supervenient (say at the level of life), the way in which the physical events which are involved run their course is different in virtue of its presence—different from what it would have been if life had been absent. . . . I shall say that this new manner in which lower events happen—this touch of novelty in evolutionary advance—*depends on* the new kind of relatedness."[2] It might be said of this construction that whether or not it is top-heavy, its point of view is decidedly that of the upper levels, and that the results of development rather than the process of development are conspicuous. In order to emphasize the process, one might define a metaphysical level as a class of structures existing in relative, but only in relative, independence; distinguishable from others as occurring earlier or later in time, and as being correspondingly simpler or more complex; and (at least within the limits of investigation) observed or inferred to have been produced from structures of earlier and simpler levels, and in turn to produce structures of later and more complex levels. The last point might be made briefly by saying that the various levels are observed or inferred to be in transitive and asymmetrical relations of producers and produced.

2. *What levels does the world exhibit?* When a level is defined in the sense just indicated, there appear to be differences of opinion

[2] C. Lloyd Morgan, *Emergent Evolution* (1923), p. 15 f.

as to what levels are actually found in the world. S. Alexander distinguishes six—Space-Time, primary qualities, matter, secondary qualities, life, and mind [3]—and recognizes the possibility of a seventh, or deity. Alexander's criterion for a difference of level is apparently the emergence, in us, of the quality of consciousness from a lower level of complexity which is vital. Not every difference of complexity is a difference of level. If matter, for example, is only a compound of electrons, the atom would not be on a different level of existence from the electron, but as compared with it might be like the more complex forms of life as compared with the unicellular organism, displaying greater complexity of structure, but not of such an order as to lead to the emergence of a new quality. On each level, in fact, there may be variations within that order of existence which exhibit secondary differences so great as to be called in common parlance differences of quality or kind.[4] But only those emergent qualities which are comparable to mind in us mark true differences of level. I am not able to say whether Lloyd Morgan regards each instance of emergence as marking a difference of level; at any rate he holds that salient examples of emergence are afforded in the advent of life, in the advent of mind, and in the advent of reflective thought, but that in the physical world emergence is no less exemplified in the advent of each new kind of atom and of each new kind of molecule. He says that it is beyond the wit of man to number the instances of emergence.[5]

It is noticeable that these writers, and with them R. W. Sellars,[6] whatever their differences of opinion concerning subordinate or secondary levels may be, agree in the widespread view that at least the realms of matter, life, and mind, respectively, constitute different levels in the universe. It is noticeable also that in these discussions of a universe of levels, there is marked emphasis upon problems of epistemology. Alexander, as we saw, calls primary qualities and also matter with secondary qualities levels, and distinguishes levels by a criterion for which the emergence of consciousness furnishes the clue. With frequent provisos against misinterpretation of his terminology, he maintains that at each level of the universe the new quality which emerges may be called the mind of that level.[7] Lloyd Morgan and Sellars both emphasize the process by which we know the developing world of naturalism, and link their theories of emergent evolution with their earlier works in the theory of knowledge. It

[3] S. Alexander, *Space, Time, and Deity* (1920), Vol. II, p. 335.
[4] *Ibid.*, Vol. II, pp. 45, 54.
[5] L. Morgan, *op. cit.*, p. 1.
[6] R. W. Sellars, *Evolutionary Naturalism* (1922), pp. 8, 332.
[7] Alexander, *op. cit.*, Vol. II, p. 68.

may be added that Alexander and Sellars present elaborate discussions of various ontological categories. One finds that, measured by the work of three of its chief protagonists, the doctrine of levels has been treated in close connection with the epistemological traditions.

I am not concerned with a discussion of these positions, so much as I am with an approach to the problem of levels from another angle. My point is not merely that metaphysics should be "emancipated from epistemology"; it is that sometimes even those whose naturalism would help to effect the emancipation have exaggerated the importance of epistemology. In order to win a new approach to the problem of levels, it may be advisable to go outside the literature of philosophy in the more technical sense and to appropriate some material from the sciences, where the categories of epistemology and ontology are, to say the least, not very prominent. As a sample of such material, may I take the following quotation from an article by A. P. Mathews on "The Mechanistic Conception of Life"?

"It is generally believed that living matter originated from lifeless; that at first there was a void or formless universe composed of ether or electrons or whatever the primitive stuff may have been and still is; that some of these electrons got arranged somehow into systems, making what we call the atoms of the chemical elements; that those atoms combined slowly into more complex systems, the molecules; that these molecules condensed or aggregated into larger masses, meteors, comets, stars, suns, worlds; that these masses in their turn became arranged into systems, the solar system, great nebulæ, universes, and so on; that on the surface of one of these planets of one of these systems water condensed, amino acids and other organic and inorganic substances were formed, principally by the action of light; that these amino acids condensed or agglomerated into larger groups which may be called micellæ or colloid particles; and that finally these micellæ aggregated into still larger groups of cells and unicellular organisms, and these cells aggregated into larger multicellular animals and plants."[8]

I am interested in the possibilities which I think are open for attempts to enumerate the metaphysical levels in terms of such current scientific theories, and particularly in attempts to extend the enumeration, as Mathews does not extend it here, beyond the realm of biology and make it include the various levels of mind. It is not possible to be very definite in such an enumeration, or to be sure of the accuracy of some of the assumptions involved; but I think the scientific evidence is becoming clear enough so that one may tentatively consider a world of let us say about twenty-five levels, which I would enumerate somewhat as follows: (1) energies, (2) electrons,

[8] A. P. Mathews, "The Mechanistic Conception of Life," *Scientia*, Vol. 36, p. 243 (1924).

(3) atoms, (4) molecules, (5) astronomical masses, or bodies, such as planetesimals, (6) solar systems, (7) star clusters, (8) galaxies, or great spiral nebulæ, (9) possibly one or more groups of spiral nebulæ —that is, one or more astronomical "universes." Then, in the biological realm, let us say (10) organic compounds, (11) infra-cellular organisms, such as Mathews calls micellæ, (12) unicellular organisms, (13) multicellular organisms, (14) plant-and-animal groups, and then several levels exhibiting more complex types of social organization, such as (15) families or tribes, (16) nations or races, and, one might go on to say, (17) "The Great Society." Once more, in the neuropsychological realm, one might add levels for (18) specialized cells, (19) nervous areas where the conduction is indiscriminate or reversible, (20) reflex arcs, and then doubtless for several different levels of higher neural synthesis, providing for (21) complex reflexes such as are apparently operative in perception and language-reactions, (22) instinctive-emotional complexes, (23) sentiments, (24) values, and, as a final term, (25) personalities.

Of many points which might be considered in connection with this list of levels, let us mention three very briefly. First, the levels here enumerated are classes of structures, with their characteristic processes, which are observed and experimented upon in the sciences, and the problem of levels is thus stated in terms more amenable to empirical methods. In the second place, none of these levels now exists apart from the others, and doubtless they all interact. In the third place, the list, of course, shows sharp breaks in continuity, corresponding to the well-recognized distinctions between the so-called realms of matter, life, and mind. If each of the twenty-five or so classes of structures is to be called a level, there ought to be some other term to indicate the fact that each of these three realms or series of levels is so markedly different from the others. The term "realm" or "series" might be used to indicate this; but in view of considerations which I hope to develop later I would prefer the term "cycle."

3. *How do later levels develop from earlier levels?* This is, of course, the crux of the whole problem. There seem to be three slightly differing emphases in contemporary theories. We may distinguish them according as the emphasis is upon (1) integration, or creative synthesis, (2) combining relations, or mutuality of relations, and (3) emergence of new qualities. They are not mutually exclusive, and in fact usually overlap; but it is convenient to consider them separately.

The first emphasis, on integration or creative synthesis, recalls the work of Herbert Spencer and other older writers, and is represented among contemporary thinkers, for example, by E. G. Spauld-

ing and Sellars. As Spaulding puts it, "in the physical world (and elsewhere) it is an established empirical fact that parts as non-additively organized form a whole which has characteristics that are qualitatively different from the characteristics of the parts. A simple and familiar illustration of this is the formation of water out of hydrogen and oxygen. . . . This process of the formation of new qualities through the organization of parts into wholes may be called creative synthesis. . . . The atom differs from the electrons that compose it, the molecule from its constituent atoms, the cell from its molecules and colloidal particles, and finally society from the human individuals that are its units. Indeed, no realm of fact, whether subsistent or existent, is exempt from this principle of creative synthesis, in accordance with which one or more specific organizing relations so relate parts that there are new qualities in the resulting whole, and whole and part belong to specifically different universes of discourse."[9] According to Sellars, "evolution means that there are levels in nature, that the higher is an outgrowth of the lower, that *A* and *B* integrated are more than *A* and *B* separated."[10]

The second emphasis, on combining relations or mutuality of relations, has just appeared in the quotation from Spaulding. It is noteworthy also in the work of Lloyd Morgan, who says that "what is supervenient at any emergent stage of evolutionary progress is a new kind of relatedness—new terms in new relations—hitherto not in being. In virtue of such new kinds of relatedness not only have natural entities new qualities within their own proper being, but new properties in relation to other entities."[11] Within the field of the social sciences M. P. Follett, developing Holt's work on circular response and Köhler's *Gestaltpsychologie,* has argued that social wholes are constituted by the progressively changing mutual relations of individuals. "In human relations . . . I never react to you but to you-plus-me; or to be more accurate, . . . it is I plus the-interweaving-between-you-and-me meeting you plus the-interweaving-between-you-and-me, etc., etc. If we were doing it mathematically we should work it out to the *n*th power. . . . We should obtain a differential equation or a set of differential equations to be solved by integration. . . . The principles of relation as given by differential calculus help us to a clear understanding of this fundamental principle of life."[12] Miss Follett thinks that we must avoid both the concepts of a superwhole and a static whole; "what the psychologist must do in his field and the social scientist in his is to study the whole a-making; this

[9] E. G. Spaulding, *The New Rationalism* (1918), pp. 447 f, 500.
[10] R. W. Sellars, *op. cit.*, p. 329.
[11] Lloyd Morgan, *op. cit.*, p. 19.
[12] M. P. Follett, *Creative Experience* (1924), pp. 62–64.

involves a study of whole and parts in their active and continuous relation to each other."[13]

The third emphasis, on the emergence of new qualities, is especially familiar in the work of Alexander and Lloyd Morgan. According to Alexander, "The emergence of a new quality from any level of existence means that at that level there comes into being a certain constellation or collocation of the motions belonging to that level, and possessing the quality appropriate to it, and this collocation possesses a new quality distinctive of the higher complex. The quality and the constellation to which it belongs are at once new and expressible without residue in terms of the processes proper to the level from which they emerge. . . . If, to borrow the language of Mr. Lloyd Morgan, the processes of a particular level are represented as *a* processes, a constellation of such processes is of such a kind as to be a new process *ab* with its quality *B*. That is, the thing which is based on that constellation of *a* processes has an emergent quality *B*, whose behavior consists in *ab* processes; and though *ab* processes are also *a* processes they are not merely such."[14] In more general terms, both Alexander and Lloyd Morgan interpret this emergence which they find to be characteristic of the universe in terms of what they call a "nisus," or pressing of the universe towards something unattained.[15]

It may be said of all these attempts to account for the various levels of the universe, and the development of later levels from earlier, that while they are perhaps true enough in their general terms, they still lack precision and definiteness. They all need to be tested, and if possible developed, by reference to the data and inferences of the sciences regarding such levels as those enumerated in Section 2, above. I think that there are promising possibilities of detecting processes which, if not operative at all the levels, are operative at levels typical enough so that the processes may be generalized and regarded as metaphysical principles.[16] As an indication of possibilities along this line, I might suggest some hypotheses. I am not yet altogether sure about these results; but I believe that sooner or later attempts like this will have to be made, if philosophy is to deal adequately with the questions presented in the amazing developments of the sciences.

We may regard it as commonly agreed upon that the process of evolution is marked by the integration of individuated units of a

[13] *Ibid.*, p. 102.

[14] Alexander, *op. cit.*, Vol. II, p. 45 f.

[15] L. Morgan, *op. cit.*, p. 34.

[16] *Cf.* Alexander, *op. cit.*, Vol. II, pp. 54–55. I have discussed the subject in Appendix B of *A Course in Philosophy* (1924).

lower level, let us say n, into individuated units of a higher level, let us say enumeratively $n+1$. Integration is, however, by no means the only process which is going on; each individuated unit at its own level n maintains itself by interactions with other units at level n, and with units of levels $n-1$, $n-2$, *etc.* Atoms, for example, are not merely integrated into molecules, but at their own level take on or give off electrons, and absorb and radiate energy. The material, the biological and neuropsychological cycles are so different that we call these processes of interaction by different names as the higher levels and cycles are reached. In the first, or lowest, cycle we have absorption and emission; in the second cycle, that of the biological organisms, we have ingestion and excretion, with their accompanying growth and decay; and in the third, or neuropsychological cycle, we have the processes which we call sensation and response. I think that these processes, as we pass from lower to higher levels, may be called continuous, but not for that reason identical. It seems to me that at least some of the mysteries connected with the advent of new qualities may become a little clearer if the appearance of new qualities is traced not merely to processes of integration, but also to processes of cumulative interaction between units of various levels. Let us take for example the wetness of H_2O. When molecules of H_2O interact with molecules of certain other substances, for example, those of a stone, within a certain range of temperature, the H_2O adheres to the stone. If instead of, or along with, its adhesion to the stone, the H_2O adheres to an apprehending organism, we say the water, or the stone, or the organism, is wet. If any one insists, he may maintain that the H_2O without the stone had the quality of adhesiveness, and without the organism had the quality of wetness; but if one must consider such abstractions as the H_2O without other bodies to act on and without organisms, it seems to me more suitable to the abstraction to say that the H_2O is potentially adhesive, or is potentially wet, or has potentialities of adhesiveness or wetness. Potentiality seems to be a category which is read into structures or processes at one level in the light of some other level. Integration is a realignment of parts, and a realignment which is potent. But just how it is potent is impossible to say *in abstracto*. The potentialities of the new unit are unknown until its interactions reveal them, and identify them as qualities of the new unit. Perhaps the secondary qualities and even the primary qualities could be interpreted in some similar way.

Besides the processes of interaction, and along with them, there are at least at some levels processes of repetition, or reproduction of units of a given level n from other units of the same level. Without going into details of these complicated subjects, let it suffice to say

that other processes besides integration must be reckoned with as important for evolution from lower to higher levels. The process of integration, too, is particularly complicated by its relations with processes of differentiation. For example, molecules may be integrated from atoms, which we have called units of a lower level; but molecules may also arise as differentiations within a nebula or other astronomical body. Similarly, unicellular organisms may be integrated from infra-cellular units; but some cells certainly arise by processes of differentiation in multicellular organisms. Again, reflex arcs may be regarded as integrated from lower levels, or differentiated within units of higher levels. Apparently the process of integration of units of a level n into those of a level $n + 1$ is likely to be overlaid by later differentiations of units comparable to those of level n within the new units of level $n + 1$. In order to be sure whether there is real difference of level we must apparently look beyond the mere fact of togetherness or combining relations. It is for this reason, among others, that it is important to consider the other processes besides integration which as we have said are also at work in evolution. The test for difference of level seems to be the maintenance by the combination of units, which once severally belonged to level n, of a new, relatively independent individuated existence at the level $n + 1$, with processes of interaction, perhaps reproduction, and even in time perhaps new integration, proper to units of level $n + 1$, forming units of level $n + 2$, *etc.* And our immediate problem in connection with the doctrine of levels may be said to be to find characteristics or conditions of units at level n which promote their integration into units of level $n + 1$. It seems to me that examination of the data suggests two or three such characteristics.

In the first place, it is safe to say that all these individuated units, at all levels, exhibit what may be called individual variations, even if, in extreme cases, the variations pertain only to differences in spatio-temporal coördinates. And it is clear enough that integrations, when they take place among units of level n, take place among units which at that level differ somewhat from one another. Perhaps these individual differences, when large numbers of cases are taken, appear in the aggregate, in the material cycle, as residual attractions, which, according to several theories, are evident to us in integrations marked by the chemical affinity of atoms, the cohesion or adhesion of molecules, and the gravitation of larger masses. There seems to be something continuous, but not identical with such residual attraction in the biological realm, evident in the way in which individually varying organisms in a group adjust their individual insufficiencies and superfluities in what we call mutual dependence upon one another. Again, there seems to be something continuous,

but not identical, with this residual attraction and mutual dependence, in the implications, references, and meanings of our individually varying single acts and ideas, which frequently point beyond themselves to larger systems of acts and ideas, usually purposive. From this point of view, one might define a meaning as the part which a relatively isolated act or idea has in a system, such as a sentiment or value, belonging to a higher level. We need to remember here also that processes of differentiation are at work, as well as processes of integration; but in any case, individual variation seems to be an important factor in the result.

The problem of integration can perhaps be simplified by asking what individual variations seem to be suited to the process of integration; and this question can perhaps be partially answered by calling attention to certain variations in dynamic properties. These variations in dynamic properties are not clearly made out for all the levels, but there seems to be a tendency for integrations among units which vary in the rate at which their interactions go on; units of level n which interact more slowly with units of level n, $n-1$, *etc.*, seem to integrate with other units of level n which react more rapidly, and those which interact more slowly and those which interact more rapidly seem to be locked together in the newly integrated units of level $n+1$. In several cases at least, as more and more complicated newly integrated structures of a level $n+1$ are developed, the n units whose processes are slower apparently tend toward positions in the inner portions of the new unit of $n+1$, while the n units whose processes are more rapid apparently tend toward positions in the outer portions. Possibly one may go a step further, and say that the dynamic variations which tend to bring about such distribution in the newly integrated units also make possible a regulation of the more rapidly interacting outer portions by the more slowly interacting inner portions. Examples of this may be seen in the "binding of electrons" by atoms, in the slowing down of the speed of revolution of a satellite to the speed of rotation of the primary body, in the relations between the nucleus and cytoplasm of a cell, between the digestive and the muscular systems of a multicellular organism, in processes of control in psychology, and perhaps in other cases.

It should be noted that, while the foregoing hypotheses may apply to differences of level in general, some special considerations may be necessary in order to do justice to the data and the inferences concerning the more striking differences which we called differences between series or cycles. I think that the most fruitful suggestion here is the hypothesis that the relation between material and biological cycles can be clarified by analogy with that

between biological and neuropsychological cycles. Perhaps the latter member of each of these pairs is a means of coördination, equilibration, and speeding up for the former. At any rate it ought to be clear for philosophy that, along with the other ways of studying the living organisms, there ought to be more studies of them as a whole in their relation to the earth as a whole.

I am quite aware that none of these hypotheses looking toward more detailed descriptions of the process of integration and of passage from earlier to later levels needs to be regarded as any ultimate explanation of the process. Perhaps it will never be possible to demonstrate the emergence of novelty. One reason for this may be our own value-centric and persono-centric predicament. The very principle of novelty demands that we should be new at our level and different from the levels below us; and novelty, accordingly, must be recognized, rather than demonstrated or explained. Or, if there is to be explanation, other types of explanation, held to be more nearly ultimate, may be sought within the data, or outside and beyond the data. For every integration there may be an Integrator, for every level a Leveler. My point is that in some way such as I have indicated our theories can be empirically enriched by examination of the data. While we may need "natural piety" as much as ever, we can direct a larger portion of it toward familiar processes, and less of it toward processes which we give up as utterly obscure.

4. *What are some of the more important applications of the doctrine of levels to the classical problems of philosophy?* Merely in order to indicate the importance of the doctrine of levels, one should mention a number of its applications, although none of them can be developed at length within the necessary limits of this paper. (1) In terms of the doctrine of levels, evolution can be interpreted more precisely and accurately in terms of progress. According to Lloyd Morgan, progress is a "net result."[17] (2) According to Sellars, Lloyd Morgan, and others, the doctrine of levels affords a reconciliation of mechanism and vitalism in biology.[18] (3) According to Alexander, Sellars, and others, it affords a fruitful answer for the mind-body problem.[19] (4) In accordance with the work of Bergson and Alexander, it affords more definite ground for a concept of futurity, and a view that the future is essentially unpredictable.[20] (5) According to Spaulding, Alexander, and others, it affords a notable solution for the problem of freedom.[21] One may say that

[17] Lloyd Morgan, *op. cit.*, p. 32.

[18] Sellars, *op. cit.*, p. 329 f; Lloyd Morgan, *op. cit.*, pp. 8, 12.

[19] Alexander, *op. cit.*, Vol. II, pp. 3, 7; Sellars, *op. cit.*, p. 334.

[20] Bergson, *Creative Evolution*, translated by A. Mitchell (1911), p. 341; Alexander, *op. cit.*, Vol. II, Book IV.

[21] Spaulding, *op. cit.*, p. 448 f; Alexander, *op. cit.*, Vol. II, p. 326 f.

fatalism is true at the level of reflexes, whereas determinism (in the sense of self-determination, involving personal responsibility) is at the same time true on the social and ethical level which we occupy. (6) Within the field of psychology, the doctrine may be made to interpret the significance of purposiveness. A purpose is a temporarily inhibited tendency which organizes or integrates activities with reference to it. Thus all purposiveness may be said to be organization, but all organization, which is characteristic of all levels, is not necessarily purposive. (7) The doctrine of levels reënforces the oft-desired and oft-proclaimed revision of our logical and ontological categories to make room for creativity and novelty, and to make clear that continuity does not necessarily mean identity. (8) With reference to the position of the idealists, personalists, and pragmatists, mentioned early in this paper, one may say that according to such a doctrine of levels as above developed, mind and personality are unique in the universe, but they are not universal. They are not fundamental, but apical. Yet, according to a comparative study of the structures and processes of the various levels such as I have been sketching, it is possible that the significance of mind and personality is not exhausted by placing them at the upper extremes of a long series of levels. It is possible that their structures and processes are not merely apical, but also typical of the universe as a whole; and although the world is not a Great Mind, the mind may turn out to be a little world, which at its own level gives us at least some light upon the nature of the whole. (9) With reference to the position of the realists, also mentioned early in this paper, one may say that the fact that the units of all levels exhibit cumulative interactions with units of lower levels goes far to indicate that the interactions of minds with bodies and environments, which interactions make up the subject-matter of epistemology, are special and highly complicated cases of the general types of interactions exhibited at other levels. In order to interpret these interactions at the level of mind it may be necessary to introduce subsistents, essences, floating adjectives, and similar concepts or realities; but it does not appear to be necessary to regard these as characteristic of the universe at all levels, or of the universe as a whole. One might say that if essences are really essential, they are essential to epistemology rather than to metaphysics. (10) Finally, in the field of philosophy of religion, one may say that the doctrine of levels portrays a universe which tends naturally to produce higher and higher levels. At present the highest level seems to be at or near the one which we occupy, or better, which we *are*. Perhaps, as Alexander suggests, in the future there will be levels higher than any which

we have known. A philosophy of religion and psychology of religion which are moving away from the idea that matter and spirit are opposites, and which are sometimes referring to the universe, rather than anything outside or beyond the universe, as the object of religious devotion may, with the help of the doctrine of levels, measure, if they do not define, spirit as difference of level in matter, and spirituality as difference of level in ourselves.

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MR. BROAD'S QUESTIONS CONCERNING CRITICAL REALISM

MR. C. D. BROAD, in the Supplementary Volume No. 4 (1924) of the *Proceedings of the Aristotelian Society* (pp. 106ff.) has raised several questions concerning the epistemological view expounded in *Essays in Critical Realism*. Since Mr. Broad is a very able thinker, what is not clear to him will doubtless be obscure to others. I should like, therefore, to answer his questions. Of course, my answers must be taken as my own, and not as necessarily expressing exactly the views of my collaborators, with most of whom I have not had opportunity to discuss the points raised.

1. Mr. Broad speaks of "the extreme ambiguity of the words 'datum' and 'given,' which the Critical Realists constantly use" (p. 109). My reply is that, although it is extremely difficult to define fundamental terms satisfactorily, there should be no difficulty in understanding what we mean. "Givenness" is the same fact as "consciousness," looked at, so to speak, from the other end. I am conscious of—let us say—*This red book*. Then *this red book* is "given" to me, is my "datum." Data are *What is "given," What is present to consciousness, What one is aware of*. Mr. Broad suggests that the common factor present in all senses of "given," on our theory, may be "not reached by conscious inference." But this is not our usage. Anything that we think of, imagine, remember, conceive, is, at the moment, our datum. There are data of conception, of memory, of introspection, of imagination, as well as of perception.

The distinction which Mr. Broad suggests between what is given sensibly, mnemically, and categorically, we can accept. The three factors, or at least the first two, are blended in developed perception, but can be distinguished in analysis; they point to different aspects of the physiological process by which givenness (or awareness) is made possible.

The question as to what *is* given to a perceiver is not easy for an onlooker to answer; he has to judge by seeing how the perceiver acts; and much of the reaction of the perceiver is hidden from the onlooker. To take the case which Mr. Broad cites: A man looking at a penny from the side would most likely be conscious of "a penny looked at from the side," and not of "an elliptical image." But if he lapses from the perceptive attitude, and recovers the "innocence of the eye," he may become conscious of "an elliptical image." He can not be conscious of both essences at the same time, for the two states of awareness are based upon conflicting motor responses. But he can alternate rapidly between the two states of consciousness, having one datum and then the other in rapid succession.

Similarly, the man looking at a straight stick protruding from the water, may be aware of "a straight stick," or of "a bent stick," or of "a stick that looks bent but is straight." A man noticing the visual image for the first time would, doubtless, for the moment, have the datum "a bent stick"; then, by a quick correction, his datum would become "a stick that looks bent, but is straight." An experienced person, interested in using the stick, for rowing or fishing or what not, would probably not notice the bent look it presented, and be aware only of "this stick," without reference to straightness or bentness.

Certainly, the straightness, hardness, weight, *etc.*, of the stick can be "given" as truly as its color. The physiological process conditioning the awareness will be different in the different cases. But that is another story.

Our term "datum" is, therefore, of wider application than Mr. Broad's term "sensum." And this choice of a more inclusive term is based upon our conviction that the problem of consciousness is essentially the same in the cases of perception, memory, conception, *etc.* Epistemology has suffered from too exclusive attention to the case of perception. The epistemological status of a "sensum" and of a datum of memory or conception is essentially the same. A "sensum" does not necessarily *exist* anywhere, because it is sensed, just as truly as a datum of conception need not exist because it is conceived. In fact there is no sharp line between "sensa" and other data of consciousness. A "sensum" often fades into a datum of memory or conception, as when, in fading light, objects gradually become too dim to see, or when a sound grows so faint that we cannot tell whether we hear or imagine it. The problem of the existential status of "sensa" suffers from isolation from the larger problem of the existential status of the data of consciousness in gen-

eral. And if we gave most of our space to discussing perception, it was to meet our opponents on their own ground.

2. The difficulty concerning the meaning of the term "datum" in our usage comes to a head in our statement that a datum is always, *qua* datum, a mere essence, not an existent. Mr. Broad finds our view "inadequate" in that it maintains that we are "acquainted with nothing but essences" (p. 113). I suspect that the difficulty here lies in a misunderstanding of our meaning, very natural in a region where unambiguous statement is almost impossible. Suppose we put the matter this way: It is always conceivable that there *is* no existent of the sort "given" to consciousness, whether perceptually or conceptually; I may be suffering a hallucination, or conceiving an object that never existed. My datum in this case (what I seem to see, or what I am imagining) by hypothesis does not exist. It is, however, an essence, *i.e.*, a definitely describable somewhat, an entity for discourse and logic.

If, now, the entity that I seem to see or that I think of (*i.e.*, my datum) does exist, my datum is not only an essence but an actual existent. That is, if, or in so far as, my perception or conception is veridical, just this entity of which I am conscious has a part in the causal nexus of the existing world. But the fact that this entity is "given" to a knower does not guarantee its existence. In other words, the datum *as such* doesn't exist; the status of being a datum, of being "given," is not an existential status. Consciousness does not confer existence upon its objects; they are merely essences, objects of discourse, except as they may happen to have existence independently of any one's awareness of them.

This distinction, though difficult to express so clearly as to be beyond misunderstanding, is a common-sense distinction. I may conceive a dragon, I may even have an experience of a vivid perceptual sort and seem to see an existing dragon in front of me; yet, in so far, there is no guaranty that the dragon really exists. If the dragon actually exists, he really belches flames, he really devours real people—or does whatever a real dragon would do. This status, existence, is a status of a very different order and importance (to the people who might be devoured, for example) from the status of being a datum of my experience. The class of data of consciousness is one class of essences, the class of existents is another. In cases of veridical cognition these two classes overlap.

Thus in all cognitive situations there is an element of certainty and an element of uncertainty. It is certain that just such and such an entity is "given"—in other words, that some one is conscious of just such and such an object or event. It is uncertain that such an

object really exists, or that such an event really happened. In *Essays in Critical Realism* we distinguish these two aspects of the situation by saying that the awareness (or intuition) is certain, the affirmation of existence uncertain. That this particular entity is "given" (is my datum) is indubitable. But faith in its *existence* is something more. If our faith, our affirmation, is justified, we are not only intuiting data, we are cognizing reality. Genuine perception is veridical cognition. It involves something more than consciousness. There must be, in addition, a coincidence, or, if you please, a relation of identity, between the datum of perception and an independently existing thing. We are, indeed, "acquainted with" actual existents. At least, as realists, we believe and affirm that we are. But by being existents these objects of our "acquaintance" do not cease to be essences, counters for discourse, logical entities. *That* they are anyway.

3. This brings me to another point of Mr. Broad's misinterpretation of our doctrine. He criticizes our view as not having room for knowledge of particulars (p. 114). But, of course, I may be aware of "this particular." That would be, then, the essence "given" to me. The term "essence" should not be contrasted with the particular, or the concrete, or indeed with anything. The class of essences is the inclusive class, covering anything that can be mentioned. In Mr. Broad's illustration, the perceiving of two similar red spots in different places simultaneously, my datum would be "Two red spots, one here, one there"—or something of the sort. If I perceived them successively, my data would be, perhaps, "This red spot," and then "This other red spot to the right of the first one."

Some essences can have only one existential embodiment. There can be but one "first copy printed of a certain book." Every particular existent is the existential embodiment of its particular essence. Any other existent would be the embodiment of a different essence, were it only in respect to its number or position in space or time. But any essence, however particular, can be "given" over and over again—as often as any one can think of it. When the same item is thought of, or perceived, by different people, it is correct to say that their data are identical. But this does not involve an existential identity between any parts of the life of the various people. None of the people concerned "embrace," include within their own existence, any part of the life of the thing thought of or perceived. For that thing exists at a different time or place, or both, from that of any perceiver. But all the people can perceive it or think of it; it can be, in various degrees of detail, the object of their awareness.

4. Mr. Broad proposes to substitute for our terms a fourfold distinction: "I should say that we must distinguish (*a*) sensa and physical objects; (*b*) the sensible qualities and relations of sensa; (*c*) the qualities and relations which *actually belong to* physical objects; and (*d*) the qualities and relations which *we ascribe to* physical objects when we sense sensa having such and such sensible qualities and relations" (p. 114).

This classification suggests to me an erroneous epistemology. If by "sensa" he means what *we* mean by "data of perception," *i.e.*, what we are aware of when we *perceive*, then these are precisely the qualities and relations which we ascribe to physical objects in the moment of perception, and the distinction between (*b*) and (*d*) disappears. If he means by sensa the data of *introspection*, or *esthetic contemplation—e.g.*, the datum "an elliptical image," in the case of the penny—well and good. But in the moment of awareness of these images or sensations we have abandoned the perceptive attitude and are not ascribing *any* qualities to physical objects. Perhaps the term "sensa" includes perceptual, introspective, and esthetic data. The clause under (*d*) would refer, then, to the shift by which we should pass from awareness of our sensations (the introspective or esthetic attitude) to awareness of outer objects. But in ordinary perception there is, of course, no such shift; we simply see the penny as round, and have no awareness whatever of its ellipticality. If there is a shift, it is more likely to be from the more primitive datum "a round penny" to the more sophisticated datum "an elliptical image of a penny." If the observer is an artist painting pennies or an experimental psychologist studying sensation, the ellipticality may, of course, be the original and only datum.

5. Finally, Mr. Broad, taking up a question proposed for the symposium to which his paper belongs, asks (p. 115) "whether the notion of essence can overcome the difficulty of affirming a Nature independent of mind." Of course, as he says, it can not; and we have not supposed that it could. But he goes on to say that we "recognize quite clearly that, by deserting Naïve Realism," we lay ourselves "open to this difficulty." To this I must demur. *All* forms of realism are in precisely the same position in respect to this difficulty. The belief in the identity of datum of consciousness and independent existent is, for all realists, strictly speaking, a hypothesis, not an unquestionable fact.

The fact is that the particular tenets of the various groups of realists are all harder to defend than the realism that they hold in common. Naïve realism holds that *all* the qualities of our "sensa" exist in the external world. Critical realism holds that *some* of them

exist in the external world. Other forms of realism have held that *none* of them exist externally. But the realistic faith is more fundamental than these specific doctrines, and far more easily supported than any of them. The realistic hypothesis seems to us all overwhelmingly evidenced. In fact, the difficulty of believing in a Nature independent of mind seems to us rather a gratuitous difficulty, the affliction of a few people who are obsessed by dialectical puzzles or who seek an escape from the confines of the natural world. But the discussion of realism *vs.* anti-realistic views is a very different matter from the discussion of the relative plausibility of the various kinds of realism.

The naïve realist insists that all those data of consciousness that are called "sensa," have real, external existence. If this could be proved to be true, realism would, *ipso facto*, be, in so far, proved true. (I say "in so far," because the world as science conceives it, with its atoms, electrons, *etc.*, would still not be proved to be an existing world.) But this particular belief of naïve realism has to meet difficulties far greater than those that stand in the way of realism in general. Whatever difficulty there may be in the way of a belief in a realistic world, that belief does not necessarily involve us in these difficulties of naïve realism. So far as the more fundamental problem, of realism *vs.* anti-realisms, is concerned, all we realists are in the same boat.

It would be a great gain for philosophy if realists of the various schools could, first, understand one another, and then come to an agreement as to the situation in cognition. I am not sanguine as to the likelihood of such a *rapprochement* in the near future. And I do not expect that this brief explanation of a few points in the doctrine of Critical Realism that have proved obscure to some other realists will entirely remove even these particular misunderstandings. But I hope that it may help in some slight degree toward the development among realists of a common terminology, and thus the development, eventually, of a common doctrine.

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BOOK REVIEWS

The Problem of Immortality. Studies in Personality and Value. RADOSLAV A. TSANOFF. New York: The Macmillan Company. 1924. Pp. viii + 418.

This is an interesting and valuable survey and criticism of human thought upon immortality. It includes discussions of views advanced in primitive religions, in the ancient civilizations of India,

Egypt, Israel, and Greece, and in Christianity (with separate chapters upon Dante and modern Protestant theology). To these are added studies of the more strictly philosophical attitudes taken by representatives of ancient and modern materialism, positivism, pessimism, and idealism. The author's sympathies are mainly with the idealists, and prominence is given to the idealistic side of Kant, and to the opinions of Bosanquet, McTaggart, Royce, and Nietzsche. In the consideration of each view, the author takes careful notice of what values are recognized, and how far provision is made for them in a manner that is logically consistent. Such a book obviously could not be exhaustive. The author apologizes for not having given more notice to Plato, Plotinus, Spinoza, and others. He warns his readers that this is a preliminary study, and that his conclusions are to be regarded as tentative. However, the book is obviously the product of patient and scholarly investigation extending over many years. Statements are well documented. Criticisms are discriminating, and usually convincing. The book amply fulfills the promise of its preface, that an account of human speculation on immortality will afford psychological material of the first importance, and throw light upon the nature of values and personality.

The discussion of primitive religions is not so well done as the rest of the book. Savage religions recognize immortality as a fact, comparatively unassociated with moral or other considerations of worth. With the general evolution of moral ideas, there must have been a corresponding moralization in the notions of the hereafter; but the successive steps in this evolution are not definitely indicated. The chapter on Dante happily introduces us to the ancient and medieval Christian view of the hereafter through the concrete imagery of a great poet. Dante's great achievement is his revelation of the values within the reach of man here and now, and his ardent espousal of these values. The *Purgatorio* is perhaps the most human part of the *Divine Comedy;* for it alone portrays a scene of moral endeavor after virtue (p. 57). From the beginning of the third chapter the author comes into firmer grip with his problem. In this chapter he shows convincingly the failure of both ancient materialism (which maintained that the soul is a variety of material structure) and modern materialism (which makes the soul a function of living matter) to explain the presence of human personalities with aspiration for values. McTaggart's attempt to revive Hegelian idealism in personalistic terms is not much better. It is really a reaction to pre-Kantian rational psychology. The identity of selves in successive incarnations devoid of memories, adequate development, and social relationships is a doctrine that fails to profit by the

Kantian transcendental unity of apperception and the Hegelian self as a unity of process through changes and differences (*cf.* pp. 139, f., especially. This criticism may be just, but it takes some hardihood to tax an authority like McTaggart with failing to appreciate the significance of Kant and Hegel). Nietzsche sought to find a solution of his by no means original doctrine of "eternal recurrence" in the exhortation now to live such a life as one would be willing to repeat an infinite number of times. But on this doctrine no person would now have any choice except to live again such a life as he has already led an infinite number of times in the past (Chap. V). Comte's positivistic immortality, despite the fervor with which he stated it, is merely terrestrial and is not personal; for him all human actions survive only in a depersonalized sense, which does not meet the requirements of human aspiration (Chap. VI). Buddhism, with its doctrines of Karma and Nirvana, is another instructive illustration of the failure of a depersonalized immortality to serve as a goal of moral aspiration in any way that is logically consistent (Chap. VII).

The chapter reporting the present status of the idea of immortality among contemporary (Protestant) theologians contains interesting information. The theologians have profited by the study of modern philosophy. Nearly all of them have learned from Hume and Kant to abandon the old doctrine of a substantial soul and the so-called "proofs" that used to be associated with it. Their chief reliance now is upon personal religious experience and moral argument; and these, they honestly confess, only afford probability at best. They have little interest in psychical research (p. 226). The more orthodox still believe in eternal rewards and punishments. Many, however, now contend for conditional immortality, restricted to those worthy of it. Some hope for the ultimate redemption of the entire human race (Chap. VIII). The following chapter, on ethical arguments for immortality, mentions Butler, but is chiefly concerned with Kant and Royce. One permanently valuable contribution made by Kant was his demolition of rational psychology, with the result that the question of immortality must be answered, if at all, in terms of value. Kant also extended the great truth of Stoic ethics, that moral autonomy involves single-hearted devotion to duty, into an argument for immortality. His critical limitation of science to the space-time world of causal relation has guided the thought of contemporary idealism to the problems of personality. This is well illustrated by Royce, for whom the perfection "eternally attained in the Absolute must (even from the point of view of the Absolute) be eternally sought by the finite individual. God attains

it, not despite my endless search for it, but in and because of my endless search for it" (p. 271).

In criticism of Bosanquet, it is urged that in attending to the Absolute *par excellence* we are liable to be involved in an abstraction perhaps more subtle, but none the less real, than that resulting from McTaggart's preoccupation with finite selves as finite selves. Nothing should be taken in philosophy as final and ultimate, not even the Whole or the Absolute. That Bosanquet did not see this logical consequence of his own philosophy is perhaps due to the influence of Bradley's *Appearance and Reality* (p. 291; *cf.* 296, f.). The pessimists, of whom Leopardi, Schopenhauer, and Hartmann are chosen for specific discussion, have been right in recognizing the fact of frustration in this life, and in pointing out that we are never satisfied with goals achieved because we ever see new goals for which to strive. But what this really means is that with progress we constantly raise our standards of value. Continued progress of this kind in a future life would really be desirable, so that a discriminating criticism of pessimism results in an argument for immortality.

In his concluding chapter, the author approves the dictum of Urban that "value is not a determination of being, but a direction of becoming" (p. 338), that of Alexander which affirms that value arises in a relation between an object of value and a subject of valuation in coöperation and conflict with other subjects (p. 340), and that of Höffding that " it is personality which in our world of experience invests all other things with value" (p. 344). "The problem how a world without value comes to be a world of value is simply the problem how the world process attains to personality. Just as we can study the gradual attainment of personality in the world, so we may trace the genesis of value" (*ibid.*). Absolutists are wrong in regarding growth as inappropriate to the Absolute, to the Whole, to the Universe; ultimately and concretely the universe is change, process, activity (p. 354). The demand for the eternal recognition of personal aspiration can not be neglected without at the same time negating morality in any ultimate sense. The absolutist has ignored this demand, going so far in the case of Bosanquet as to subordinate the moralistic to the religious attitude "as if religion really demanded the notion of static perfection," a false assumption which a better understanding of Christianity would have corrected (p. 357). "Values and valuation involve conation, aspiration, self-transcendence, and do not admit of being absorbed in Absolute Perfection" (p. 365). "In contemplating our eternity we demand the continuance of our recognizable selves" (p. 366). Personality as immortal is not a structure but a process, a system of values (p. 368). Only

in the permanence of persons may value be conserved (p. 371). Therefore, we must have a "non-absolutist metaphysic," a "dynamic conception of God," and a philosophy that "takes due recognition of the cosmic rôle and significance of personal centers of worth" (p. 376).

So the outcome of Professor Tsanoff's comparative and critical study of human thought on immortality is, that human aspirations could only be satisfied in a growing universe in which men were immortal as developing persons. This he seems to the present reviewer to establish convincingly. But what evidence—apart from our own sentiments—have we that such a desirable consummation of our aspirations is in prospect for us? This question Professor Tsanoff does not undertake to answer. He has done much to show what kind of a "Great Perhaps" would be the logical goal of human desires and judgments of personality and value.

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The Æsthetic Experience. LAWRENCE BUERMEYER. Merion, Pennsylvania: The Barnes Foundation. 1924. Pp. 183.

Art has been a slave and it has been a sacrament. As a vassal it has served to sanctify law, to glorify patriotism, to enflame courage, to give glamor to religion, and splendor to morals. As a mystery it has been an inspiration, an ecstacy, a trance, a frenzy, and a madness. But very seldom have a few breathed the suggestion that it might be a normal human activity. Upon the ordinary man, who is not a priest, a statesman, or a languid esthete (and, one fears, upon these others as well), the effect for art has been unfortunate. His everyday life is not passed upon the mountain-peaks of an ineffable idealism, and the idea of going into a delirium before the Sistine Madonna frankly alarms him. He does not feel himself equal to an orgy of mystic emotion. Yet this, both critic and artist frequently assure him, he must have if he is really to appreciate art. Thus there has been erected a sharp barrier between the activities and thoughts and feelings of a man's daily life, and the activities and thoughts and feelings of art. The latter have become esoteric if not abnormal. Art and religion are enshrined in museums and churches —like two luminous flies embedded in amber—respectable but remote, utterly irrelevant. Into this tangle of fantastic, but by no means extraordinary, notions comes Mr. Buermeyer, and with a peal upon the clarion of a rarified common sense brings the walls of the whole structure to a Jerichoan fall.

Perhaps this is too cavalier a way of describing what is really a skilfully planned campaign. Mr. Buermeyer believes "that art is

woven into the whole texture of life, and is unintelligible if taken as an isolated phenomenon," and "that we must understand human nature if we are to understand any of its manifestations, of which art is one." In the demonstration of this thesis he reveals not only a knowledge of art-history and criticism, but a sound understanding of psychology and a rare artistic tact. Having limned in the attitude toward art suggested in the preceding paragraph, the author goes on to show that art is animated by essentially the same purposes and feelings that inform other activities, and that it differs from them not in being dedicated to an anemic specialization, but in trying to make fruitful a larger domain of human fulfillment.

That all the arts are a part of the art of living, and that all the activities of man would partake of the character of art in a well-organized state, are no new ideas. Even the most practical of our pursuits, those gainful occupations that are carried on for ends not involved in their practice, begin to acquire esthetic value as soon as the worker comes to have any pleasure in their doing, apart from his desire for their fruits. Not only does a practical activity assume some flavor of art when it achieves intrinsic values; it also may resemble art in having a technique, in arousing appreciation, in bringing into imaginative focus the qualities and relationships of the materials it uses, and in being to some degree creative and permanent in its achievements. Thus—unless we assume that all business men and artisans either hate or are indifferent to their occupations—we see that the experiences of our daily lives are not entirely divorced from those of art, but share many of their characteristics. Practical activities, however, differ from those of art in that they confine themselves to only a few of the aspects in which experience is significant, they "go on in an impoverished and denuded world."

If we transfer our attention to what we may call the world of feeling, that of our emotional lives, we find a similar resemblance. Our emotions and our emotional desires are the expressions of instinctive tendencies; it is our instincts that endow things with values, that make them seem desirable or repulsive. In action, desires are swayed more or less by the reason, attempting to show how their objects may be attained and in what degree these objects are really desirable. But if we analyse even the crude instinct we learn that its values, too, resemble those of art in a number of ways. For one thing, in their primitive intensity they are impersonal, without sense of self. The most utterly instinctive actions, such as those of a baby, are absolutely naïve and unconscious. The instinct, too, tries to explore its object, to grasp its quality. Thus its aim, although it is not always successful, is in part to give coherence to experience. Finally, its values are always regarded as intrinsic, and they are the

same as those of art. They differ from the values of art only in that they are less fully perceived, and therefore more precarious and unstable.

From this discussion Mr. Buermeyer has made it clear that the world of art is not one where the pallid esthete clings in fear of the realities of life, but rather a fuller world of more robust and coherent values than the partial ones of either practical affairs or undisciplined instinct. Art is, in fact, not a dabbling in fancy, but the intelligent transformation of instinct into a firm realization of what is good. We have seen that the primitive grasp of instinct upon its values is insecure. The work of intelligence is to interpret and transform, to give depth and shading to our appreciation, to sift the irrelevant from the essential—in short, to educate our perceptions to a point where in making any choice we shall be able to discern what is really best for us and to achieve it. This orientation, this well-rounded and well-assimilated scheme of values in any sphere of our lives, is art; but we find it most thoroughly, not in the purblind heat of intense personal desire, but in the understanding serenity of fine art.

It is to be seen that Mr. Buermeyer's definition of art definitely excludes from both fine art and daily experience what he calls "phantasy-building." The effort to escape from the real world in any part of our lives, to tell ourselves that the stuff of life is some more silken fabric than it is, does not aid us to orient ourselves at all, but encourages a craven shirking of experience. It is a denial of the effort to bring clarity into the world by understanding it, and an affirmation of a dream that would ignore it. Art that is daydreaming, that produces a false and prettified version of experience, is not what Mr. Buermeyer calls art. We noticed at the beginning of our survey that the theory that life is earnest has tried to relegate art to a half-world of unreality. The author of this book has shown that life is most earnest and most real only when it approaches the intense, and typical, reality of art.

Of Mr. Buermeyer's deft and interesting treatment of the relationships of religion and morality to art we have not the space to treat. His thesis and achievement may be summed up in his own words: "We have tried to make the point that art is life, that there is no duty to be done, no relationship into which we can enter, no human desire or purpose, that if enlightened by intelligence does not enter the realm of art. We have seen the germ of art in the simplest instinct, in its natural and essential tendency to reach, however gropingly, towards imaginative comprehension of its object. With the lessons taught by experience and reflection upon experience, this comprehension becomes surer and more adequate, and the

action which it guides becomes more just, more generous, and more truly expressive of all that the man acting wants and is. In a world never wholly propitious to human welfare and never wholly tractable, enlightenment always falls in part short of its goal, and so we have painting and literature and music . . . to show more completely than life can 'the end of every man's desire.' And fine art itself, though it provides that which the real world can neither give nor take away, is not merely a walled garden, a refuge or a haven. If the artist has embodied in his work the stuff of which life is made, if he has truly understood and expressed the human soul, his work will be a beacon of light. . . . But he will have little to show, and those who follow will lack eyes to see, unless both he and they have come to the work of art through the art of life."

For all the author's emphasis on the rôle of intelligence, it could be desired that he had indicated a little more specifically that the reason may be an object of emotional value in itself, an end as well as a means. And to a reader more skeptical than the author it seems doubtful that a communistic régime would encourage the spread of art to a much greater degree than does our present capitalistic one. To imagine a world where all men will have an understanding love of art is to imagine a world where the minds of men will glow to knowledge with the scientific enthusiasm of Lucretius, and their hearts to love with the clear-eyed passion that no poet yet has learned. But of a book that reveals so much skilled digestion of knowledge and ripeness in the art of living it would be carping to single out a few points for argument.

Even in a philosophical journal it may not be supererogatory to note the clarity and suppleness of Mr. Buermeyer's presentation. He does not strain for simplicity to the point of falling into diffuseness; but although he is dealing with a technical subject his style remains always lucid to the average cultured reader. His illustrations from literature and painting are characterized by a richness of background and a keenness of analysis that make them not only an ornament, but an aid to his argument. It is charming to find a book on esthetics whose author understands his subject with the heart as well as with the lips. This book has the quality of delight added to that of understanding.

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Textbook of Logic. H. E. CUNNINGHAM. New York: Macmillan Co. 1924. Pp. 428.

If a textbook in logic is to have any popularity in a field which is already over-crowded, it must offer something distinctly new and

worth while. From the point of view of novelty Professor Cunningham's book lays claim to the following: first, a new approach to the subject-matter of logic on the basis of a distinction (which proves to be largely terminological) between *thinking* and *thought;* second, a treatment of relations and relational processes as a distinct object of investigation; third, analyses of the legal and of the historical methods, as concrete examples of the thinking process.

In considering the "elements" of logical subject-matter, *i.e.*, terms, relations, and propositions, we may approach them from two points of view. On the one hand, there is *thinking,* or "the problem-solving process which occurs when one is unable to gain the desired objective harmony with one's surroundings" (9), and on the other, *thought,* or the "product of the thinking process, the 'intellectual environment' so to speak" (v). That is, the "instruments" of thinking may be discussed according to "their formulation and the use made of them in thinking" or "as they are in knowledge" (17). To take a single example, the proposition may be considered either as a judgment, "the active aspect," or as a proposition, "the result aspect of thinking" (41). The distinction, of course, is a matter of approach only, and not of ultimate analysis.

The fact that Professor Cunningham has devoted two chapters to the hitherto neglected subject of relations is worthy of commendation, and in connection with this his treatment of non-syllogistic arguments is good. But his discussion of relations is, I fear, too obscure in many places for the student of elementary logic. Sometimes, moreover, it is inaccurate. For example, he defines a symmetrical relation as "one in which there is compatibility between the domain and the converse," and an asymmetrical relation as one in which there is not (35). Certainly none of the accepted meanings of the word "compatibility" would make this definition correct, and it is questionable whether such a meaning could be found.

The outstanding features of the inductive logic are the chapters on the legal and the historical methods. Both are well written and justly deserve an important place in an elementary text on thinking. Heretofore there has been too much emphasis on the method of the natural scientist, and too little on that of the social scientist.

A chapter on "Systems" introduces the student, through the example of geometry, to the nature, function, and value of deductive systems. Considering the difficulties of the subject, the author's presentation can not be severely criticized.

On the whole, in view of the distinctly novel elements which the book has to offer, it may supersede some of the older textbooks in logic, though a certain lack of polish in the manner of presentation

will probably prevent it from ever having the popularity of, say, Minto or Creighton.

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Short Talks upon Philosophy. SIR H. CUNYNGHAME. London: Constable & Co., Ltd. 1923. 245 pp.

We have here a series of brief, somewhat disconnected essays on the more influential personages and conceptions found in the history of philosophy. The author explains in his preface that the material was prepared originally for a series of lectures, the delivery of which circumstances prevented, hence the notes were cast into the form of a book.

Except for a few scattered phrases, the author has nothing new or suggestive to offer, either in the way of an interpretation of the history of philosophy, or of constructive insight on his own account. His book is strewn with dubious, though dogmatic, assertions, and historical inaccuracies are not rare. He seems not to know that the preface to the *De Revolutionibus* was not written by Copernicus (p. 87), nor that Descartes wrote his *Rules for the Direction of the Mind* before 1630 (p. 92). These instances could be multiplied.

The best chapter in the book is that on Hegel, with whose philosophy the author seems, generally speaking, to concur.

EDWIN A. BURTT.

UNIVERSITY OF CHICAGO.

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NOTES AND NEWS

The Annual Meeting of the Mind Association will be held this year at Balliol College, Oxford, on Friday, July 24, followed by a Joint Session with the Aristotelian Society. Details of the arrangements can be obtained from Prof. H. Wildon Carr, 107 Church Street, Chelsea, London.

Assistant Professor Maurice Picard, of Wells College, has accepted an appointment as Assistant Professor of Philosophy and Psychology in Lehigh University, his duties beginning with the next academic year.